

5.3 Measuring

Equipment: • measuring cylinder
• access to water • variety of objects

Name: _____ Class: _____

VOLUME OF IRREGULAR SOLIDS

M The easiest way to find the volume of an irregularly shaped solid is to place it in water and measure the amount of water displaced.

Volume of water displaced = Volume of the object

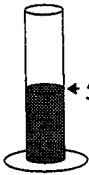
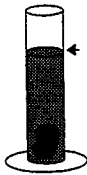
Useful definition: 1 mL = 1 cm³

Equipment

- * measuring cylinder
- * water
- * five different objects

Example:

Find the volume of this rock using the water displacement method.

Step 1	Step 2	Step 3	Step 4
<p>Fill up a measuring cylinder to an 'easy-to-read' level.</p>  <p>← 50 mL</p>	<p>Place the rock into the measuring cylinder carefully so that no water splashes out.</p>	<p>Read off the new level of the water.</p>  <p>← 94 mL</p>	<p>Subtract the original water volume from the final level, which is the volume of the object.</p> <p>94 mL – 50 mL = 44 mL</p> <p>Volume of rock 44 mL = 44 cm³</p>

Collect five solid objects. They must be small enough to fit inside the measuring cylinder.

For example:

a paper clip a marble a pencil 4 _____ 5 _____

Write a report on how you went about measuring the volume of these solids. Record your results, and rank the objects in order of their volumes. Refer to the problems that you encountered and describe the way that you solved these problems to find the volume of each object.

- use instruments correctly and accurately
- explain the use of the term 'capacity', distinguish from 'volume' and relate units of capacity to units of volume
- order objects by volume using liquid displacement

H M L N